

Chapter C3: Commercial Fishing Valuation

INTRODUCTION

This chapter presents the results of the commercial fishing benefits analysis for the North Atlantic region.

Section C3-1 details the estimated losses under current, or baseline, conditions. Section C3-2 presents the expected benefits in the region attributable to the rule.

Chapter A10 details the methods used in this analysis.

CHAPTER CONTENTS

C3-1	Baseline Losses	C3-1
C3-2	Benefits	C3-3

Note that all results have been sample weighted in this version. In the final revision results will be reported unweighted.

C3-1 BASELINE LOSSES

Table C3-1 provides EPA's estimate of the value of gross revenues lost in commercial fisheries resulting from the impingement of aquatic species at facilities in the North Atlantic region. Table C3-2 displays this information for entrainment. Total annual revenue losses are approximately \$0.5 million, assuming a 3 percent discount rate.

Table C3-1: Annual Commercial Fishing Gross Revenues Lost Due to Impingement at Facilities in the North Atlantic Region

Species	Estimated Pounds of Harvest Lost	Estimated Value of Harvest Lost (in 2002 dollars)		
		Undiscounted	Discounted Using 3% Discount Rate	Discounted Using 7% Discount Rate
American plaice	0	0	0	0
American shad	0	0	0	0
Atlantic cod	193	189	172	152
Atlantic herring	981	58	53	47
Atlantic mackerel	0	0	0	0
Atlantic menahden	69	4	4	4
Bluefish	2	1	1	0
Butterfish	194	112	108	103
Crabs (commercial)	310	164	160	155
Lumpfish	596	89	81	72
Other (commercial)	12	8	7	7
Pollock	19	14	12	10
Red hake	59	13	12	11
Sculpins	66	38	36	33S
Scup	19	20	18	16
Searobin	8	1	1	1
Silver hake	363	135	123	110
Skates	961	145	136	126
Tautog	16	17	13	9
Weakfish	22	20	19	18
White perch	0	0	0	0
Windowpane	80	132	117	100
Winter flounder	2,088	2,533	2,241	1,927
Other unidentified species (from forage losses)	137	134	121	106
TOTAL	6,195	3,828	3,434	3,007

Table C3-2: Annual Commercial Fishing Gross Revenues Lost Due to Entrainment at Facilities in the North Atlantic Region

Species	Estimated Pounds of Harvest Lost	Estimated Value of Harvest Lost (in 2002 dollars)		
		Undiscounted	Discounted Using 3% Discount Rate	Discounted Using 7% Discount Rate
American plaice	781	932	783	631
Atlantic cod	2,622	2,580	2,273	1,934
Atlantic herring	21,347	1,266	1,112	948
Atlantic mackerel	2,761	608	542	469
Atlantic menhaden	5,578	319	297	271
Bluefish	0	0	0	0
Butterfish	2	1	1	1
Lumpfish	27	4	4	3
Other (commercial)	18	12	11	10
Pollock	17	12	10	8
Sculpins	31,273	18,144	16,571	14,771
Scup	130	136	119	100
Searobin	75	9	8	7
Silver hake	324	121	107	92
Tautog	6,009	6,512	4,691	3,092
Weakfish	301	264	244	221
White perch	0	0	0	0
Windowpane	477	786	636	485
Winter flounder	473,571	574,527	493,437	408,468
Other unidentified species (from forage losses)	8,974	8,759	7,888	6,944
TOTAL	554,288	614,991	528,734	438,455

C3-2 BENEFITS

As described in Chapter A10, EPA estimates that 0 to 40 percent of the gross revenue losses represent surplus losses to producers, assuming no change in prices or fishing costs. The 0 percent estimate, of course, results in loss estimates of \$0. The 40 percent estimates, as presented in Table C3-3, total \$0.2 million when a 3 percent discount rate is assumed.

The expected reductions in I&E attributable to changes at facilities required by the rule are 43.8 percent for impingement and 29.1 percent for entrainment. Total annual benefits are estimated by applying these estimated reductions to the annual producer surplus loss. As presented in Table C3-3, this results in total annual benefits of \$0.1 million, assuming a 3 percent discount rate.

Table C3-3: Annual Commercial Fishing Benefits Attributable to Phase II Rule at Facilities in the North Atlantic Region (million 2002\$), Assumes Compliance in 2005

	Impingement	Entrainment	Total
Baseline loss - gross revenue			
Undiscounted	\$0.00	\$0.6	\$0.6
3% discount rate	\$0.00	\$0.5	\$0.5
7% discount rate	\$0.00	\$0.4	\$0.4
Producer surplus lost - low	\$0.0	\$0.0	\$0.0
Producer surplus lost - high (gross revenue * 0.4)			
Undiscounted	\$0.0	\$0.2	\$0.2
3% discount rate	\$0.0	\$0.2	\$0.2
7% discount rate	\$0.0	\$0.2	\$0.2
Expected reduction due to rule^a	43.8%	29.1%	---
Benefits attributable to rule - low	\$0.0	\$0.0	\$0.0
Benefits attributable to rule - high			
Undiscounted	\$0.0	\$0.1	\$0.1
3% discount rate	\$0.0	\$0.1	\$0.1
7% discount rate	\$0.0	\$0.0	\$0.0

^a Estimated based on EPA's assumptions. EPA's assumption about the amount of electricity that will be produced in the future differs very slightly from DOE's. Using DOE's assumptions, the expected reductions would be 48.6 percent for impingement and 32.8 percent for entrainment.